International Competitiveness in Services in Some Middle East and North Africa Countries Using Gravity Model

Ahmad A. Al-Majali[1], Radi M. Adayleh[2]*

[1]Department of Economics, Business & Finance, School of Business, Mutah University, Jordan, [2]Department of Economics, Business & Finance, School of Business, Mutah University, Jordan. *Email: radi.adayleh@yahoo.com

ABSTRACT

This paper attempts to identify the current state of services competitiveness in some Middle East and North Africa (MENA) countries, as well as identifying the degree of attractiveness of the region given its general macroeconomic characteristics. The current paper analyzes the changes in the levels of competitiveness of four major service sectors –transport, communications, travel, and other business services - by using the market share position of a number of MENA countries. Gravity model was used by implementing an annual panel data for the identified key variables covering the period 2006–2010. The model displayed in its four equations the existence of gravity between the MENA countries resulting mainly from the low distance between these countries. Oil -exporting countries have a high demand for services exported by oil-importing countries. Also the model illustrates that there is a significant relationship between a country's GDP, population, distance, and openness, and trade performance indicators such as imports, exports, trade balance, and total trade. In additional to that the competitiveness matrix shows a general improvement in the competitiveness of MENA countries in services trade over the period of the study.

Keywords: Gravity Model, Middle East and North Africa Countries, Competitiveness Matrix, Services Competitiveness
JEL Classifications: F1, N7

1. INTRODUCTION

Trade in services is receiving increasing interest in both the trade literature and in the negotiations under the GATS as a result of the importance of services to the global economy. Services currently account for approximately two thirds of the world's GDP and over half of the total employment in industrialized countries (WTO, 2010). Given these figures, it is surprising to see that the share of services in the total trade falls behind, reaching 21% of the global trade flows in 2009 (WTO, 2010). Several reasons have been attributed as the causes of the low level of services trade. The most common of these reasons are the intangible nature of services and the interdependence of services and foreign direct investment flows, which makes the measurement of services trade more difficult. Moreover, this low figure is also due to the various restrictions on trade in services. As such, this paper attempts to identify the current state of services competitiveness in some Middle East and North Africa (MENA) countries, as well as identifying the degree of attractiveness of the region given its general macroeconomic characteristics.

In 2010, the major exporters of the commercial services were the European Union, the United States, Japan, China and India, which together represented around two-thirds of world exports (WTO, 2011). Although MENA countries have lately made progress in this field, MENA's share in the total services trade has stagnated to around 4.8% in 2010. Moreover, services trade only represented 19% of the region's GDP in 2010, even though services' added value accounted for more than 40% of GDP. These outcomes do not only reveal serious competitiveness issues, but also show the limited commitments of the services liberalization by MENA countries.

This study analyzes the changes in the levels of competitiveness of four major service sectors -transport, communications, travel, and other business services - by using the market share position of a number of MENA countries. The approach we use measures the competitive position of the selected service sectors, and it also analyzes their evolution based on a methodology similar to the one followed in those studies that tackle the industrial sector. Such an approach allows us to evaluate the world insertion of

MENA countries and, given a certain world demand, their position either as a supplier or a consumer of those services. Furthermore, through an empirical analysis we examine the factors explaining the competitive position of the selected MENA countries in the four selected service sectors. Also, this study introduces a gravity model that explains the current state of competitiveness of services trade in MENA countries, with the aim of identifying the main determinants that enhance the level of competitiveness in this region.

The study is structured as follows: The first section summarizes the existing literature that addresses trade in services, and it exposes the difficulties involved in the measurement of international competitiveness. Section two develops the descriptive analysis of the competitive position of some MENA countries. Section three illustrates the results of both the competitiveness matrices and the dependent model to find the factors explaining the competitive position of the four selected service sectors. The final section discusses some general conclusions.

2. LITERATURE

2.1. Previous Studies
Traditionally, services were regarded as intangible products, and their consumption can't be separated from their production, leading them to be considered as non-tradable goods (Fuchs, 1968). Due to technological developments in telecommunications international trade in services has expanded and information technology, physical and consumption requirements of services trade may have been reduced, Bhagwati (1984) which in turn enhancing the tradability of services rapidly and faster than trade in merchandise, hence, in 1990 global services trade reached 20% of the total global trade (Triplett and Bosworth, 2002).

Together with the increase in services trade, several theoretical models of trade in producer services and of the economic consequences of trade liberalization in services have been proposed by Markusen (1989), Melvin (1989), Francois (1990a; 1990b), Jones and Ruane (1990), and Deardorff (2001). Experimental research on trade in services has however been quite limited, not least due to the lack of availability and poor quality of data.

A study conducted by Chang et al. (1999) estimated disaggregated data on trade in services for the world as a whole and described the countries' specialization in various service sectors. Other studies (Midelfart-Knarvik et al., 2000) have used production and employment data to make inferences regarding the pattern of specialization so as to bypass limitations on trade data. Guardia et al. (2005) study shows that the competitiveness of a number of European countries in three service categories and it classifies the countries examined into four categories as outlined in the UNO and World Bank's competitiveness matrix. They also employ a factor analysis that investigates the main contributors to changes in the competitiveness positions in these countries.

Karam and Zaki (2011) examine the determinants of aggregate flows of service trade in MENA countries using an adapted version of the gravity model and a panel dataset covering the period from 2000 to 2009 including 21 countries and 10 sectors. A new

determinant of trade performance is introduced: The number of commitments undertaken by a sector in the WTO as well as the availability of those commitments by mode. Behar and Freund (2011) characterize the trade performance of the MENA region over the past 15 years. Cross-section results show that MENA's exports to the outside world were only one third of their potential in recent years, showing that even though MENA's exports have been expanding more rapidly than exports from the rest of the world, it would still take 20 years for MENA countries to reach potential trade. Excluding natural resources, exports also represent only one third of the benchmark, but the improved export performance over a period of time is much slower and implies that it could take twice as long to reach potential. Furthermore, while MENA also under-trades within the region, the extent of under-trading is less acute than with the outside world.

A related and sometimes overlapping literature examines specific trade agreements within MENA or between MENA and other countries. For example, Cieslik and Hagemejer (2009) find that MENA-EU deals increased MENA imports from Europe but not MENA exports to the continent. Nugent (2002) discusses why the percentage of the trade in the MENA countries is so low by investigating a number of trade agreements within the region. In most cases, the agreements did not appear to increase trade over the period of 1970–1997. In the work of Al-Atrash and Yousef (2000), the authors highlight that the Mashreq countries exhibit a higher level of intra-group trade whereas, intra-GCC and intra-Maghreb trade are relatively low. The same results has been found by Bhattacharya and Wolde (2010), in which, the results of the gravity models shows that the volumes of trade in the MENA region significantly lower than what would be expected given their economic.

Most of the recent literature on intra-industry trade (IIT) does not focus on the MENA region. The most comprehensive and recent study was conducted by Brulhart (2009). The main conclusion of this study is that there is an upward trend in the share of trade that is referred to as an intra-industry. However, this trend is largely apparent in the high and middle income countries, with some low-income and those mainly are Asian countries, who also enjoying the phenomenon. A World Bank (2002) study which focused on Latin America concluded that the MENA was the only region to experience a decline in IIT.

The results of this paper complement existing works in a number of ways. In terms of the MENA's relative trade, most of the papers employ a single cross-section. While we still use a single cross section with slightly updated data, yet we also use a 1994 full panel for others. Furthermore, following recent developments in the gravity modeling literature, this paper is cautious with its use of fixed effects in the panel, which can be important for estimating and interpreting results. in addition, we have a dummy representing intra-MENA trade, and also two dummies for extra-MENA trade that separate MENA imports from MENA exports.

2.2. Difficulties
When measuring the international competitiveness of a country or a sector of an economic activity, the difficulties tackled are much

more complex since the relationship between economic size and trade provides evidence of the impact of the growth of neighbors on trade in the long run (Manners and Behar, 2007; Guardia and Molero, 2003).

For instance, instability of exchange rates limits our ability to compare between countries, especially when attempting to convert the variables normally used to a common unit of account. Despite this, the effective real exchange rate is considered a proper method used more frequently to measure the degree of international competitiveness.

In addition, competitiveness is not only defined by productivity evolution, but technology, infrastructures, innovation, transnational companies' strategies, and public policy's nature are all considered to be different factors that have an influence on any sector of economic activity in the international markets. Furthermore, gains and losses of competitiveness have also been related to the degree of openness of the economy, the size of the public sector, and the level of education of the general population. Consequently, synergies existing between all those elements highly support the competitive positions of different economies. Therefore, the ability to capture the main influences on competitiveness on a macro level becomes cumbersome and runs through many hurdles, thus requiring several necessary adjustments.

2.3. The International Competitiveness Matrix

During the 1990s, competitiveness of the industrial sector gained importance by the emergence of a new alternative created to measure it. In the early years of the 90s, the *United Nation*s published the "Competitive Analysis of Nations," referring to the period between 1977 and 1993. The origins of this new approach is based on a unique equation that analyzes both the constant participation in the market and the planning of portfolio strategies in participating companies, in order to compare the changes in the competitive situation.

By this rationale, the measurement of international competitiveness is based on the idea that an economy improves its degree of competitiveness by enhancing the size of its exports; reversely, increasing the size of imports dictates a decline in competitiveness. Moreover, the process of insertion of a country into the international economy is a phenomenon not only related to the exporting progresses of the analyzed economy, but also linked to the behavior and actions of other competitors. As a result, we introduce the aspect of the dynamic nature of the markets.

With this approach, an ex-post assessment of competitiveness is implemented. Only a descriptive reference to changes in the forms of competitiveness and specialization in international trade is provided. In principal, the commercial advantages and disadvantages are derived from the actual results of international trade. The commercial advantage is represented by the evolution of exports (reflecting improvements in competitiveness), and by the evolution of imports.

2.4. The Gravity Model

We will estimate the following four equations:

Services imports equation (SM):

$$SM_{it} = \beta_0 + \beta_1 GDP_i + \beta_2 Pop_i + \beta_3 Dist_i + \beta_4 TOpen_i + \varepsilon_t$$

Services exports equation (SX):

$$SX_{it} = \beta_0 + \beta_1 GDP_i + \beta_2 Pop_i + \beta_3 Dist_i + \beta_4 TOpen_i + \varepsilon_t$$

Trade balance equation (TB)[1]:

$$TB_{it} = \beta_0 + \beta_1 GDP_i + \beta_2 Pop_i + \beta_3 Dist_i + \beta_4 TOpen_i + \varepsilon_t$$

Total trade in services equation (TST)[2]:

$$TST_{it} = \beta_0 + \beta_1 GDP_i + \beta_2 Pop_i + \beta_3 Dist_i + \beta_4 TOpen_i + \varepsilon_t$$

The variables in our equations are defined as follows:

GDP_i: Stands for the share of the country I's GDP of total GDP for the MENA region.

Pop_i: Represents the fraction of the country i's population from the total population for the MENA region.

$Dist_i$: Measures the GDP weighted distance between the country i's capital city from the capital cities of other MENA countries ($Dist_i = \sum(dist_{ij} * (GDP_j/GDP_{mena}))$).

$TOpen_i$: measures the level of trade openness of the country i by dividing the sum of total imports and exports (merchandise and services) by the country's GDP. Total trade openness, as opposed to trade openness in services only, was taken as an explanatory variable based on our belief that this indicator better represents trade policies and trade relationships between countries (free trade agreements), especially in light of the relatively low level of openness of trade in services.

2.5. Descriptive Analysis

This section explores the descriptive analysis of services trade in the MENA region. Economic growth in the MENA region has been relatively slow. Since 1980, real per capita incomes in the region increased by 30%, compared to 60% increase in the world, and more than threefold in both East Asia and South Asia over the same period. While there are a number of possible contributing factors, this research shows a strong link between international trade flows and income per capita. Greater openness assists the movement of resources into their most productive uses, which raises living standards and increases the return on investment. The MENA region, however, has largely fallen back on global trade integration, due partially to the restrictiveness of their trade regimes. Trade policy, including high and complex tariffs, have been cited as the main policy-induced barrier to intra-Arab trade, but other aspects including high logistics costs and insufficient skills have been eminent as well. As a result, many attribute at least part of the MENA region's poor economic performance to inadequate integration.

Figure 1 demonstrates a stagnant level of the MENA's share of world trade in the 1990s with minor improvements in the later part

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1. Trade balance in services is the difference between service exports and service imports.
2. Total trade in services is the sum of service exports and service imports.

of the decade, such that it accounted for about 3.4% of the world exports and 2.6% of the world imports in 2000. In the 21st century, the trend was reversed for both exports and imports by 2010 they accounted for about 5.0% and 4.4% of the worlds exports and imports, respectively.

MENA's recent trade performance is weak when compared to other countries. MENA's trade-GDP or export-GDP ratio is above the world average and has been so since at least the mid 1990s, but this is in large due to petroleum exports. Notably, MENA trade (imports plus exports) excluding oil, is reaching the world average but exports alone are below the world average. Conditional upon the relative values of GDP, distance, and a number of other aspects, a typical MENA country underperforms in trade with other countries. In particular, exports to the outside world are only a third of their potential. These results represent aggregate exports, non-natural exports, and non-petroleum exports.

To measure whether openness increased in MENA, it is appropriate to use trade-GDP ratios as the key measure. Figure 2 shows how trade-GDP ratios evolved over time. MENA's trade openness fell to about 50.0% in the late 1990s but rose to almost 80.0% by 2010. World openness rose in the 1990s and continued rising. This trend is consistent with the picture in Figure 1. Furthermore, Figure 2 illustrates that MENA's openness was never below the world ratio.
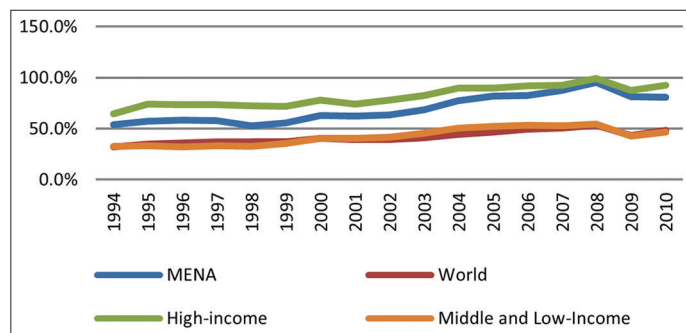
Figure 3 compares the total service trade-GDP ratios in 2008 for the individual MENA countries. Most countries in the region

Figure 1: Share of Middle East and North Africa trade from world trade
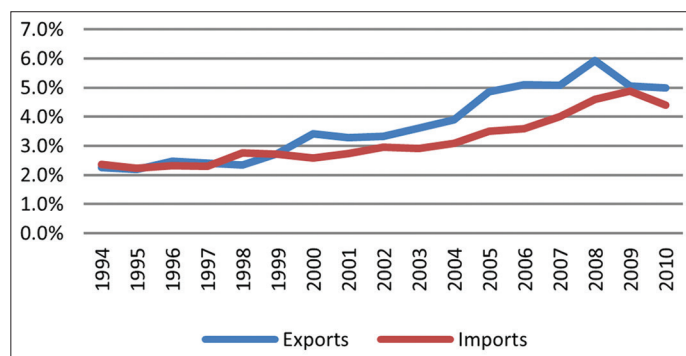
Source: UNCTADstat and author's own calculations

Figure 2: Total trade As % of GDP

Source: UNCTADstat and author's own calculations

witnessed an overall rise in the total service trade relative to the GDP. Only a handful of countries had a larger ratio than other world aggregates, namely the UAE, Occupied Palestinian Territory, Morocco, Tunisia, Egypt, Mauritania, Bahrain, Jordan, Iraq, and Lebanon.

Figure 4 compares trade-GDP ratios in the mid 90s and between the years 07–10 for individual MENA countries. The overall rise seen in aggregate represents most countries in the region. Although with some variation, most countries experienced a rise in their trade openness. We also place the countries in the context of global aggregates. The lighter bars are towards the right of the graph, which roughly indicates that most MENA countries have higher trade-GDP ratios than developed and developing countries alike. However, it is clear that rises in trade-GDP ratios took place in the rest of the world as well, which we will describe in more detail shortly.

The service sector currently represents 42.39% of the total GDP in the MENA region, lagging behind all the other regions, the developed countries like North America (77.35%) and Europe (73.55%) as well as the developing ones like Sub-Saharan Africa (57.2%). While the share of service value added in GDP tends to rise significantly with the countries' level of income, standing at 73.43% on average in high income countries, against 55.3% and 49.91% respectively in middle and low income countries, the picture looks different when MENA countries are analyzed individually. In most countries, the production of services is a core economic activity although significant differences exist between different income groups as well as within the same group. For instance, in some high-income economies like Kuwait, Oman, Saudi Arabia and United Arab Emirates, services represent around 40% of GDP while in Malta, another high-income country, they account for 65.19% of GDP, which is above the share of both industry and agriculture sectors. Also, in some lower and upper middle income countries like Djibouti, Lebanon and Jordan, the share of the service sector in GDP is around 70% while in others like Iraq and Libya, it barely reaches 20%. Besides, it is worth noting that, with some exceptions, the general trend is an increase in the share of services in GDP between 2000 and 2009.

The current importance of services as reflected by their contribution to GDP is also mirrored in employment statistics. The figure is bigger in high-income countries like Israel, Kuwait, Malta, Saudi Arabia, Oman and the United Arab Emirates, above 70% of the total employment, although the contribution of services to the GDP is only around 40%. Interestingly, the share of services in total employment in Morocco is cut by half between 2000 and 2009, although the share of services in GDP remained almost constant over many years.

Given these figures, one may be surprised to see that trade in services as a percentage of GDP lags behind, representing only 19.4% of the total GDP in the MENA region in 2008 (Figure 3). However, it is surprising that this figure is the highest among regions and in comparison to the averages for low, middle and high income countries. Such a high share of trade in services in GDP is

Figure 3: Share of services trade to GDP, 2008
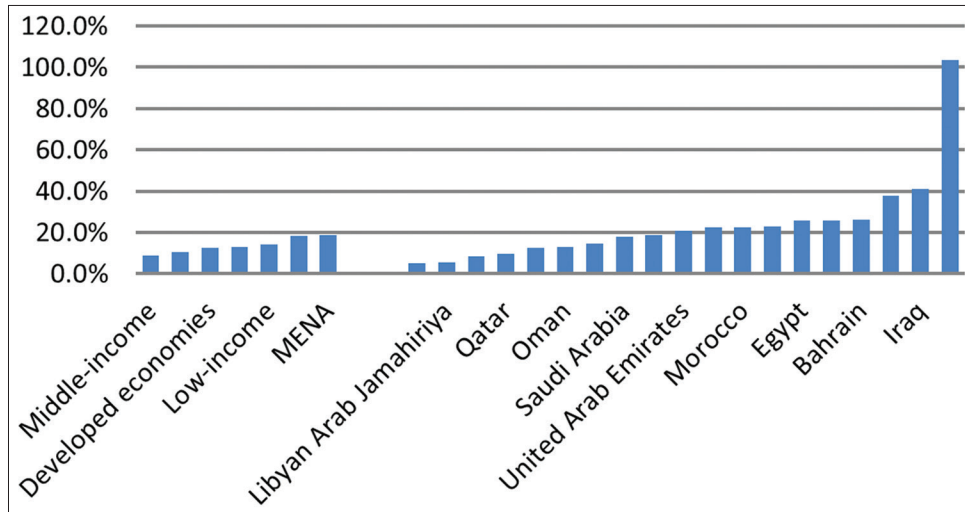
Source: UNCTADstat and author's own calculations.

Figure 4: Merchandise trade to GDP (94–97 and 07–10)
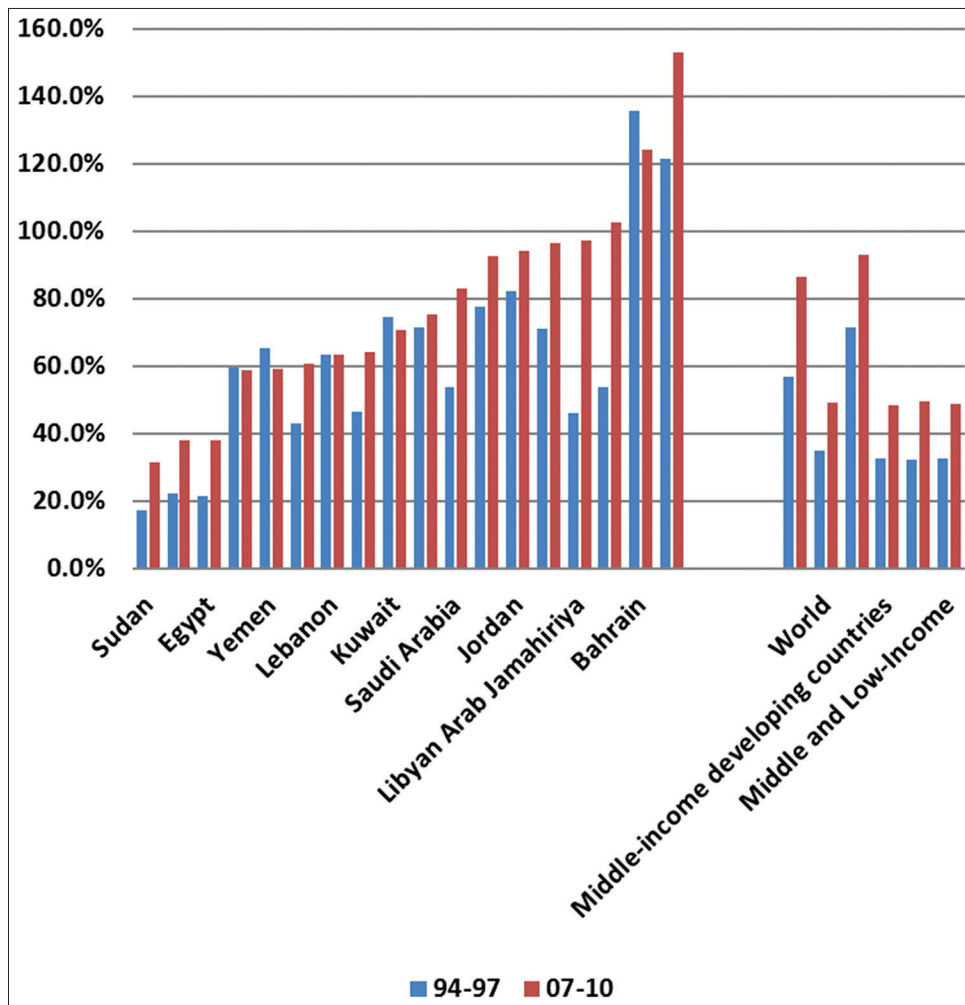
Source: UNCTADstat and author's own calculations

mainly due to countries like Lebanon whose figure equals 103.7%. Figure 3 also shows that significant differences exist between countries within the same income group. For instance, high income countries have a share of service trade to GDP reaching only about 20–25%. For low and middle income countries other than Lebanon and Jordan, trade in services barely reaches 15%.

Figure 5: Shares of services trade in total trade, 2008
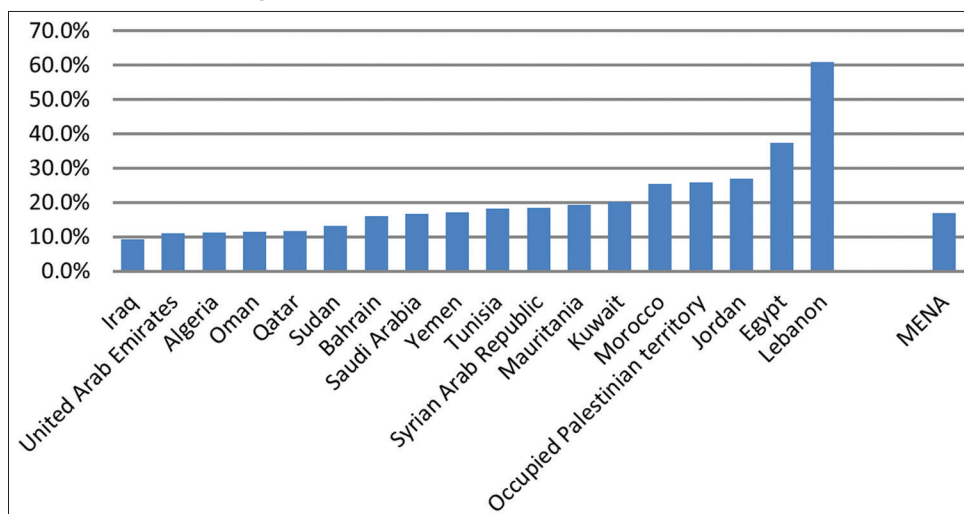
Source: UNCTADstat and author's own calculations

Figure 6: Shares of services trade in total trade, 2008
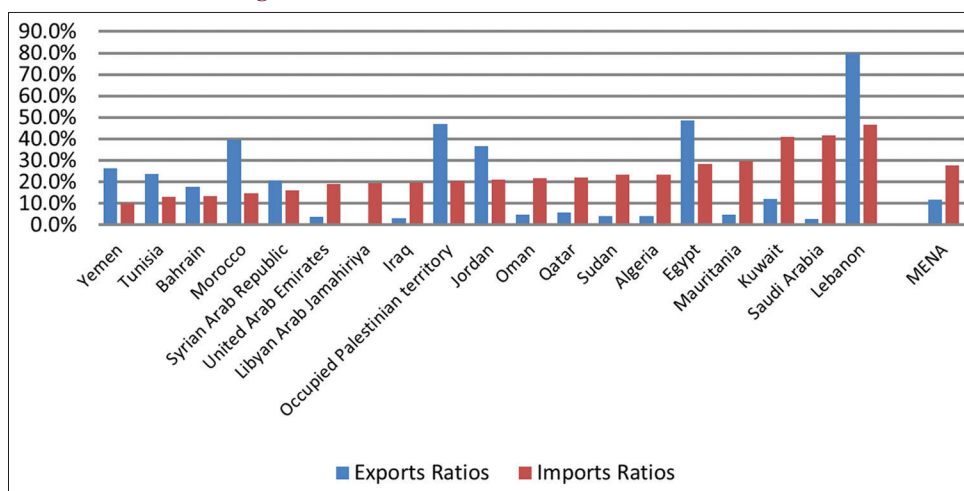
Source: UNCTADstat and author's own calculations

Moreover, when we observe the share of services in total trade, the picture does not look brighter (Figure 5). Service trade only accounted 16.7% of global trade flows in the MENA region in 2008. At the country level, only Lebanon displays a high percentage of service trade (above 45%).

Once trade is disaggregated into exports and imports, we notice that the share of services in total exports and total imports is still low, respectively 19.96% and 32.02% (Figure 6). At the country level, the picture is different. Lebanon, Egypt, Jordan, Morocco and the West Bank (Occupied Palestinian Territory) all exhibit high shares of services in total exports (above 30.0%), and much lower shares of services in total imports. By contrast, service exports in Libya, Iraq, Saudi Arabia and Oman represent a small percentage of total exports (below 10.0%) while service imports account for a much bigger share of total imports.

Despite the low share of service trade in total trade, it is worth mentioning that exports and imports of services both increased in the MENA region since 2000, reaching its peak in 2008, and declining thereafter (Figure 7). The sharp drop of service trade

in 2009 is due to the global economic crisis that sparked a 12.2% contraction in the volume of global trade, the largest decline since World War II (WTO Annual Report, 2010). Figure 7 also shows that the MENA region is a net importer of services.

3. RESULTS

3.1. Data and the Sample
Our sample consists of 19 MENA countries, 12 being members of the WTO. The data is compiled from the UNCTAD statistical database and covers the period between the years 1994 and 2010. We shall also focus on four key service sectors, namely travel, transport, communications, and other business services (representing professional services such as consulting, legal counseling, etc.,). These sectors were selected based on previous studies that addressed the same topic.

3.2. The Competitiveness Matrix
The different sectors of exports of services can be classified according to their international competitiveness through the behavior of the market share and the evolution of world imports over

Figure 7: Total trade in services
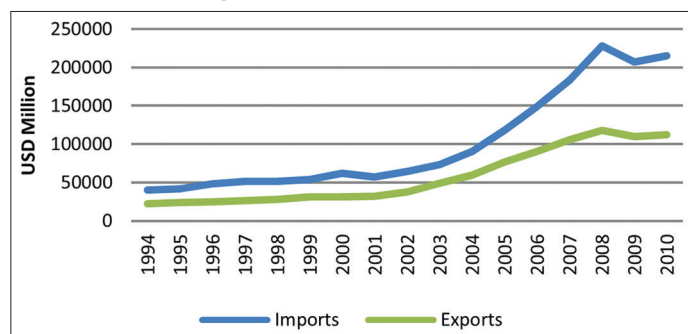
Source: UNCTADstat and author's own calculations

time. In effect, the world market share held by each country in an exported services sector which can increase or diminish throughout time, and such modifications simultaneously take place with the increases or declines that the exporting activity registers in the world import market. This allows classifying the exporting sectors arising stars (RS), missed opportunities, declining stars and retreats.

The RS are those economic activities in which a country enhances its market share and the level of its importance increases in world imports. The missed opportunities are those sectors in which a country is losing a market share while its role in international trade is enhancing.

The declining stars are the situations of economic activities where an exporting country increases its market share while having negative growth rates in world imports. Finally, we define the situation of a sector as a retreat when that economic activity is both losing market share and registering a decline of dynamism in international trade.

The competitiveness matrix of the export structure is obtained by relating the behavior of the export structure of a country with the import dynamism of the international market. This matrix shows how the adjustments of the export structure can take place in the same or the opposite direction with respect to the changes in world imports.

First, the different service exporting sectors are classified by their current competitive position, and second, the changes that take place in the export structure of the country and the world imports market throughout time are combined to the former. By combining these two variables, the exporting sectors are classified as RS, missed opportunities, declining stars and retreats.

The RS are those economic activities through which a country raises its exports in international markets while simultaneously those activities have an increasing importance in the world market. The missed opportunities take place in those sectors in which the country looses exports' market share, while the market of those sectors is growing.

The declining stars are the situations of those sectors of the economy in which the country increases its exports, although the international market is declining at the same time. Finally, we defined the situation of a sector as a retreat when an exporting branch loses its growth potential, and this same branch is also declining world markets.

Finally, the different sectors from the export of services can also be classified from the point of view of their international competitiveness throughout time, when the degree of commercial specialization of each country and the evolution of the world imports are simultaneously analyzed.

The specialization index is defined as the relative participation that the exporting sector of a country has in the world trade.

Analogous to what is mentioned above, the exporting sectors are classified as RS, missed opportunities, declining stars and retreats with a similar meaning to the ones indicated previously.

If we refer back to Table 1, we will notice that all of the analyzed countries and sectors fall into one of two categories: RS or missed opportunities (MS). This result comes mainly from the fact that all four sectors analyzed here have witnessed increased demand from the world market, and have gained a larger share of world exports in general. Given this, we can then capture the competitiveness levels of the different countries.

As shown above, we notice a positive development for nearly all countries in the travel sector, which is a reflection of how much attention the travel and tourism sector has recently gained. Also, the transport sector shows a number of positive developments in such countries as Lebanon (a market share gain of more than 138 times), occupied Palestinian territories, Oman and Qatar. Also, the Telecommunications sector shows positive developments in most of the countries.

The business services sector, however, reflects the lack of competitiveness MENA countries have in it. This sector represents management consulting services, legal counseling, professional accounting services, and investment banking services to name a few. The MENA region suffers from a lack of a competitive position in this vibrant sector (the world market for this sector grew by 224.1% during the study period).

This can be explained by the relatively low level of educational quality in schools and universities, which ultimately renders an unavailability of a skilled labor force. MENA countries can learn a great deal from Lebanon, which happens to be one of four countries increasing their exports in this field. Lebanon has a very strong educational system that supplies both the local and regional labor markets with the necessary skills. MENA countries must have a greater focus on education, and more particularly higher education that furnishes the graduates with the needed skills in the market. This sector represents an opportunity to further gain in terms of exports growth.

By analyzing the economic characteristics of MENA countries, we can see that those countries who have a number of free trade agreements (such as WTO membership and bilateral free trade agreements), along with an accelerating rate of growth in GDP, were the ones who gained a better competitive position. As a result, countries who are lagging have a strong motive to enter into more free trade agreements in order to further enhance their competitive position. On an inter-Arab level, the competitiveness matrix can be

Table 1: International Competitiveness Matrix

Country	Transport (%)		Travel (%)		Telecom (%)		Business (%)	
				1994-2010				
World import market	186.5		147.2		294.3		224.1	
Algeria	−4.5	MO	128.5	RS	−41.8	MO	32.0	RS
Bahrain	−34.5	MO	81.7	RS	−22.1	MO	−37.5	MO
Egypt	−13.8	MO	151.2	RS	99.2	RS	−75.1	MO
Iraq	43.3	RS	−99.3	MO	−6.3	MO	−24.1	MO
Jordan	−15.7	MO	137.3	RS			−73.8	MO
Kuwait	8.0	RS	−9.8	MO	335.0	RS	−15.1	MO
Lebanon	138689.1	RS	3.7	RS	194.9	RS	45128.7	RS
Libyan Arab Jamahiriya	553.5	RS	630.5	RS	4.0	RS	−32.0	MO
Mauritania	1124.0	RS	−74.4	MO			−30.4	MO
Morocco	119.5	RS	120.2	RS	286.8	RS	185.7	RS
Occupied Palestinian territory	1376.9	RS	−23.3	MO	1086.0	RS	101.7	RS
Oman	1603.1	RS	94.7	RS	17.3	RS	1160.3	RS
Qatar	1404.9	RS	334.1	RS				
Saudi Arabia	−15.0	MO	15.9	RS	3.6	RS	−99.4	MO
Sudan	174.2	RS	767.2	RS	2008.9	RS	−92.7	MO
Syrian Arab Republic	−50.9	MO	37.1	RS	121.4	RS	−89.1	MO
Tunisia	−7.0	MO	−24.5	MO	330.5	RS	−26.5	MO
United Arab Emirates	31.6	RS	288.2	RS				
Yemen	−35.1	MO	1937.9	RS	−51.4	MO	−91.1	MO

Source: UNCTADstat and author's own calculations. RS: Rising stars, MO: Missed opportunities

utilized to establish bilateral trade agreements in the sectors that are losing to other competitors, thereby targeting the deficiencies in the competitive position of these countries.

As a general conclusion, MENA countries are gaining in their competitive positions in three of the four sectors analyzed during the period of the study.

3.3. Gravity Model
In the previous section, we introduced a descriptive analysis of the competitive position of MENA countries by utilizing the competitiveness matrix. In this section, we analyze the main factors affecting intra-MENA trade in order to understand the key variables that influence the level of competitiveness, thereby focusing on what matters most to enhance the level of competitiveness and the size of intra-regional trade.

For our estimated model, we analyzed the panel data for the identified key variables covering the period 2006–2010. We used the annual data for the analysis. The first step in the analysis was taking the logarithm for the data and testing the resulting data for stationary. The next step was employing the Hausman test for the nature of the effects of the estimates, thereby determining whether the effects are random or fixed. The test results show that the estimates have a fixed effect. These fixed effects are corrected by using a panel efficient generalized least squares with cross-sectional weights. The results for our four estimated equations are shown below.

3.4. Data Stationarity
Ensuring the Stationary of the data is one of the most crucial steps of the analysis. We tested for stationarity using the Levin, Lin and Chu test. The results of this test are shown below. Every key variable proves to be stationary in their normal form without any adjustments, or as is usually said in this position that the data is stationary on levels and there is no need to take first differences to have stationarity (Al-Majali and Alrfua, (2017)) (Table 2).

3.5. Import Equation Results
It is noticeable from Table 3 that GDP, openness and population have a strong positive effect on services imports in MENA countries. On the other side, distance has a negative relationship with services imports, and this might be explained by weak enforcement of bilateral trade agreements, especially agreements addressing trade in services.

These results reinforce the common belief about imports and its relationship with other key economic variables. Our results are significant with a $P < 5.0\%$, and with an exception of GDP being significant with a $P < 10.0\%$. Adjusted R^2 indicates a high level of explanation for the model, while the P value of the F-statistic is almost zero.

3.6. Export Equation Results
Table 4 shows that although GDP also has a positive effect on services exports, this effect differs from the one on services imports. This can be explained by the fact that MENA countries are normally considered as importers of services, especially high value-added services such as professional business services and legal counseling.

It is also noticed that the significance of this estimation is strong, with the p-value of the F-statistic being almost zero, and P values for all the variables being significant at a 5.0% level.

3.7. Trade Balance Equation Results
The trade balance equation shows a different result. The trade balance results clearly explained by the GDP, population and trade openness. However, distance does not explain a significant amount of the behavior of trade balance, indicating that a country's trade position with the world is not affected by distance. We have also included an autoregressive variable to see whether it helps in explaining the behavior of trade balance. The resulting coefficient suggests that trade balance is positively affected by its historical levels (Table 5).

Table 2: Stationarity test (Levin, Lin and Chu t) for the key variables

Key variable	Level	P	Result
Service imports (SIM)	−13.13	0.000	Stationary
Service exports (SX)	−4.7	0.000	Stationary
Total services trade (TST)	−11.2	0.000	Stationary
Trade balance (TB)	−2.2	0.000	Stationary
GDP	−4.4	0.000	Stationary
Population (POP)	−2.7	0.000	Stationary
Distance (DIST)	−13.4	0.000	Stationary
Trade openness (TOPEN)	−9.3	0.000	Stationary

Table 3: Import equation results

Variable	Coefficient	t-statistic	P
LGDP	0.46	2.11	0.038
LPOP	1.09	8.80	0.000
LDIST	−3.29	−4.087	0.000
LTOPEN	0.97	5.96	0.000
C	36.19	6.15	0.000
R^2	0.99		
Adjusted R^2	0.99		
F	500.9		
P	0.000		
DW	1.22		

Table 4: Export equation results

Variable	Coefficient	t-statistic	P
LGDP	0.32	2.79	0.007
LPOP	0.93	5.79	0.000
LDIST	−6.83	−3.05	0.003
LTOPEN	1.06	3.33	0.002
C	62.6	3.75	0.004
R^2	0.98		
Adjusted R^2	0.97		
F	169.5		
P	0.000		
DW	1.53		

Moreover, the model's significance can be illustrated by the test statistics at the bottom of the Table 6. Nevertheless, the distance variable doesn't seem to be statistically significant as an explanatory variable.

3.8. The Results of the "Total Trade in Services" Equation

Total services trade is highly affected by trade openness levels, distance and population figures. The direction of the relationship between total services trade and these key variables is the same for our previous equations; there is a positive relationship between total trade in services and openness and population, while a negative sign is apparent for the distance variable. Also, the model appears to be statistically significant based on the test statistics shown at the bottom of the table.

4. CONCLUDING

This paper has illustrated that the MENA region is considered to be one of the most under-trading regions in the global economy, although there has been some considerable progress in this field. Furthermore, while some MENA countries have gained a

Table 5: Trade balance equation results

Variable	Coefficient	t-statistic	P
LGDP	0.85	2.02	0.061
LPOP	2.50	3.16	0.007
LDIST	−0.92	−0.56	0.582
LTOPEN	1.00	3.08	0.007
C	20.9	1.95	0.068
R^2	0.98		
Adjusted R^2	0.97		
F	90.13		
P	0.000		
DW	2.07		

Table 6: The results of the "total trade in services" equation

Variable	Coefficient	t-statistic	P
LGDP	0.355	2.64	0.010
LPOP	1.06	10.85	0.000
LDIST	−5.37	−5.29	0.000
LTOPEN	1.02	6.32	0.000
C	52.92	7.36	0.000
R^2	0.98		
Adjusted R^2	0.98		
F	295.3		
P	0.000		
DW	1.3		

competitive advantage over the study period, there was a number of missed opportunities that these countries could have employed to their advantage, namely in the sector of "other business services."

The results of the competitiveness matrix show a general improvement in the competitiveness of MENA countries in services trade over the period of the study. Also, such a matrix should be utilized by policymakers, and trade policymakers in particular, to identify the underperforming sectors and address these deficiencies accordingly. Furthermore, the results of the gravity model should be taken into consideration in drafting trade agreements and deciding on the right policies to adopt, and these policies are not limited only to trade policies, but also as the model shows growth oriented policies do have an effect on trade performance, along with the size of the population and the strategic location of the region and its proximity to key global markets. Every aspect of these policies needs to be carefully studied, and both the matrix and the model serve as strong starting points in drawing these policies.

Moreover, the results of our estimated equations clearly illustrate that the MENA region's trading patterns and characteristics are not distorted and resemble the same characteristics as any other developing region, thus providing fertile grounds for implementing the necessary policies that promote international competitiveness without the requirement of structural corrections, such as signing trade agreements, increasing trade openness of other sectors, removing tariffs and customs, reforming the regulatory environment and reducing red tape, and channeling credit to support exporting companies and industries. As a result, the MENA region is well placed for further development in international services trade, specifically from a policy making perspective.

Given the proximity of the region to several large and lucrative markets, this paper recommends that policymakers in the MENA countries should consider utilizing the region's advantages in services trade. The benefits that the MENA countries would gain cannot be overstated in this respect, given the large portion of GDP that comes from the service sector, as well as the sector's contribution to added value and employment. A clear strategy of enhancing the competitiveness of the MENA countries in the various service sectors is highly advised, and a concrete action plan for the implementation of this strategy is crucial for its success.

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